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To: Distribution **Date**: October 2, 1997

From: J. M. Garman

Subject: **Massachusetts Compliance: Cigarette Taping Study**

In order to prepare for nicotine-in-smoke analyses as per the Massachusetts methodology, a study was perform per the following protocol:

Smoking Machine:	Filtrona SM 400
Equilibration:	FTC Conditions
Puff Parameters:	45 mL volume/ 30 sec. cycle/ 2 sec. Duration
Cigarettes per Port:	5 for non-taped/ 3 for half taped and full taped
Taping Parameter:	Non-taped/ half taped/ full taped
Samples Tested:	Kentucky Reference - 2R1F, 1R3F, 1R4F, 1R5F
Smoking Parameters:	TPM, Nicotine, Water, Tar, Puff Count, and Carbon Monoxide (N = 16)
Physical Parameters:	Ventilation, Circumference (N = 100)

Scotch Tape #600 was applied to the tipping paper of one hundred cigarettes per sample following the Massachusetts protocol. The same tape was utilized to completely cover the entire tipping paper of one hundred cigarettes per sample. All samples were equilibrated under FTC conditions prior to smoke and physical testing analyses. For each sample, one hundred ventilation replicates were analyzed on the non-taped, half taped, and fully taped versions. Circumference was performed only on the non-taped version. Smoking was conducted under FTC conditions.

Attached are the results. Outlier data is not included in the results.

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MASSACHUSETTS COMPLIANCE: TAPING STUDY

KENTUCKY REFERENCE CIGARETTES

Sample *	Vent. %	Circ. mm	Puff Count	TPM mg/cigt	Nicotine mg/cigt	Water mg/cigt	Tar mg/cigt	CO mg/cigt
1R5F	**70**	**24.95**	**10.6**	**6.2**	**0.41**	**0.48**	**5.3**	**9.1**
Std. Dev.	2.0	0.048	0.32	0.31	0.053	0.070	0.27	0.32
N	100	100	16	16	16	16	16	16
1R5F-HT	**49**	-	**9.5**	**11.0**	**0.66**	**1.33**	**9.1**	**15.5**
Std. Dev.	3.5		0.38	0.71	0.065	0.34	0.60	0.89
N	100		13	13	13	13	13	13
1R5F-T	**2**	-	**7.3**	**22.8**	**0.86**	**8.02**	**13.9**	**22.7**
Std. Dev.	0.9		0.34	1.88	0.066	1.51	0.56	1.20
N	92		15	16	16	16	16	13
1R4F	**31**	**25.17**	**13.2**	**22.7**	**1.46**	**3.42**	**17.8**	**19.4**
Std. Dev.	3.1	0.079	0.33	0.96	0.070	0.41	0.69	0.77
N	100	110	15	15	15	15	15	15
1R4F-HT	**18**	-	**12.8**	**27.1**	**1.54**	**5.40**	**20.1**	**22.3**
Std. Dev.	3.1		0.35	0.85	0.114	0.91	1.35	1.08
N	95		15	15	15	15	15	15
1R4F-T	**1**	-	**11.9**	**36.7**	**1.71**	**11.93**	**23.0**	**26.2**
Std. Dev.	0.5		0.21	1.73	0.068	1.28	0.90	0.59
N	93		12	14	14	14	14	11
1R3F	**3**	**25.03**	**12.1**	**45.9**	**2.25**	**14.25**	**29.4**	**26.1**
Std. Dev.	2.2	0.132	0.34	1.62	0.099	0.97	0.94	0.93
N	100	100	16	16	16	16	16	16
1R3F-HT	**3**	-	**12.5**	**46.5**	**2.25**	**14.38**	**29.9**	**26.3**
Std. Dev.	0.9		0.61	3.47	0.152	2.06	1.89	1.60
N	91		16	16	16	16	16	16
1R3F-T	**2**	-	**12.6**	**50.5**	**2.25**	**17.96**	**30.3**	**27.5**
Std. Dev.	1.5		0.75	1.65	0.118	1.30	1.11	0.91
N	89		15	15	15	15	15	12
2R1F	**1**	**25.10**	**13.8**	**56.5**	**2.59**	**18.52**	**35.4**	**32.7**
Std. Dev.	0.8	0.053	0.35	1.81	0.115	1.20	0.98	1.21
N	95	100	16	16	16	16	16	16
2R1F-HT	**3**	-	**14.0**	**54.6**	**2.58**	**16.77**	**35.2**	**32.2**
Std. Dev.	2.4		0.41	2.21	0.087	1.49	1.45	0.76
N	100		16	16	16	16	16	16
2R1F-T	**3**	-	**14.2**	**57.4**	**2.54**	**20.06**	**34.8**	**31.7**
Std. Dev.	1.4		0.45	3.99	0.139	2.27	1.79	1.63
N	87		15	15	15	15	15	13

* Samples denoted above as "-HT" were half taped as per Massachusetts protocol.
Samples denoted above as "-T" had tape applied over the entire tipping paper.

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